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| **TITLE:** | Electromagnetics Modeling / Wireless Power Transfer |
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| **DEPARTMENT:** | U.S. Department of Energy/National Energy Technology Laboratory (NETL) |
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| **NETL CONTACT:** | Paul Ohodnicki; paul.ohodnicki@netl.doe.gov |
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| **DUTY LOCATION:** | Pittsburgh, PA; Morgantown, WV; Albany, OR |

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| **ACADEMIC LEVEL:** | **X** | PhD |  | MS |  | BS |  | Undergrad |  | Faculty |

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| **POSITION** **INFORMATION:** | 1-year appointment; full time (40 hours per week) with the possibility of extension (anticipated at least 2 years project duration) |
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| **CLOSING DATE:** | 2/28/2018 |
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| **WHO MAY BE** **CONSIDERED:** | United States Citizens, LPRs, & Foreign Nationals with appropriate approval which includes F-1 OPT with EAD (STEM extension not valid), J-1 Exchange Visitor, and LPR with EAD |

**SUMMARY:**

An opportunity exists to support a successfully funded Advanced Research Projects Agency-Energy (ARPA-e) project targeting wireless power transformer design for medium voltage DC-DC power conversion applications. The successful candidate will utilize finite element and converter simulation packages such as Comsol, Matlab, Simulink, and PLECs to investigate the performance of various transformer designs to support a larger project initiative spanning industry, academia, and a DOE national laboratory. Design trade-offs will be investigated and fundamental studies of the applied electromagnetics of wireless power transformer topologies will also be explored. A key responsibility of the research associate will be to incorporate novel geometries and constituent materials within transformer designs and to make recommendations about the primary design strategies to be pursued by the team to satisfy overall power converter design criteria and objectives. The research associate will also have an opportunity to collaborate with an interdisciplinary team including electrical engineers, materials scientists, and applied physicists, and to gain experimental background with core loss measurements for various candidate constituent transformer materials to be explored through design simulations.

A successful applicant will have an advanced degree in electrical engineering or a related field of study such as applied physics or materials science, with a background in transformer design simulations and/or finite element based applied electromagnetics research and design initiatives. Excellent communication skills and a willingness and interest to collaborate in an interdisciplinary team environment to drive towards overall project and team objectives is also highly desired.

**HOW TO APPLY:**

Applicants should apply through the Oak Ridge Institute for Science and Education (ORISE) program. The ORISE Program provides opportunities for undergraduate students, recent graduates, graduate students, postdoctoral researchers, and faculty researchers to apply classroom knowledge in a real-world setting to learn about NETL Research and Innovation Center’s (R&IC) core mission areas.

* Interested applicants should complete the online application at <http://www.orau.gov/netl/>.
* In the online application **list** **Paul Ohodnicki as your requested mentor.** This will associate your application with this research posting. Please send a CV to paul.ohodnicki@netl.doe.gov
* If you have additional questions please contact Patricia Adkins-Coliane, Patricia.adkins-coliane@netl.doe.gov, who is the NETL Graduate Education Program Manager.